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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,207	09/21/2001	Leigh Albert Sullivan	CULLLP0161US	6743

7590 09/29/2004

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EXAMINER

CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,207

Applicant(s)

SULLIVAN ET AL

Examiner

LaToya I. Cross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-15,21,22 and 24-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5,22,24-30 and 32-36 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,9-15,21 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to Applicant's amendments filed on July 15, 2004.

Claims 1-6, 9-15, 21, 22, 24-36 are pending.

Withdrawal of Rejections from Previous Office Action

- The anticipatory rejection over Swaim et al is withdrawn in view of Applicants' amendment to delete UV spectrometry from the group of measuring means.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1, 2, 6, 9-15, 21 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swaim et al in view of either US Patent 5,080,867 to Cooke or US Patent 4,141,800 to Breuer et al.

Swaim et al disclose a method and apparatus for determining total inorganic sulfur.

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The apparatus comprises a reaction chamber (flask 120), a means for introducing a reducing agent (contained in flask 120), a means for measuring the amount of hydrogen sulfide evolved (spectrometer) and a detector (88), as recited in claim 1. With respect to claim 2, Swaim et al disclose that the reducing agent is contained within flask (120), at col. 8, lines 3-7. With respect to claim 6, Swaim et al teach a source of a carrier gas (144), which is gas inlet tube. With respect to the heating means, recited in claim 9, Swaim et al teach the flask (120) is adapted to be heated by an electrothermal agitator (col. 7, lines 60-63). With respect to the condenser recited in claim 10, Swaim et al teach a condenser section (124) having a condenser (134) cooled by water (refrigerated fluid) circulating through a water inlet (col. 7, lines 53-56). With respect to claim 12, the reference teaches several means for controlling reagents throughout the system, including flow meter/regulator (68), peristaltic pump (114) and nebulizer (92). With respect to claims 14 and 15, the reference teaches that a light signal from the detector is processed and the results of the evolution of hydrogen sulfide are recorded (col. 5, lines 29-39). The reference teaches that the inorganic sulfur content may be determined in samples of salt matrices.

Swaim et al differs from the instantly claimed invention in that, while the reference teaches a UV spectrometer as the means for measuring evolved hydrogen sulfide, there is no disclosure of the particular instruments now recited in claim 1.

Both Cooke and Breuer et al teach analyzers that may be used in detecting hydrogen sulfide. Cooke teaches that gas chromatographs are very accurate in their detection of hydrogen sulfide (col. 1, lines 40-45). Breuer et al teach detecting hydrogen sulfide using electrochemical gas analyzers having enhanced selectivity (col. 2, lines 54-58; col. 6, line 44 - col. 7, line 3). It would have been obvious to one of ordinary skill in the art to use a

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conventional instrument in Swaim et al to detect the evolution of hydrogen sulfide. Gas chromatographs have proven to be quite accurate and electrochemical analyzers are known for their selectivity. In using either a gas chromatograph or electrochemical analyzer for detection of hydrogen sulfide in Swaim et al, accurate results and selective detection is provided.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102, in view of the teachings of Swaim et al in view of Cooke or Breuer et al.

Allowable Subject Matter

4. Claims 3-5, 22, 24-30, 32-36 are allowable over the prior art of record.

Response to Arguments

5. Applicant's arguments filed July 15, 2004 have been fully considered but they are not persuasive. In response to the Swaim et al reference, Applicants argue that Swaim et al neither anticipates nor renders obvious the instant invention because the measurement means used in Swaim et al is only capable of measuring trace amounts of hydrogen sulfide. In response, the prior art teaches the conventionality in using analyzers other than UV spectrometers for detecting hydrogen sulfide. For example, gas chromatography and electrochemical analyzers are taught as being suitable. Swaim et al teaches at col. 1, lines 44-53, that all of the evolved hydrogen sulfide is collected and analyzed. The evolved hydrogen sulfide is results from contacting the sample with a reducing agent to reduce inorganic sulfur to hydrogen sulfide. Thus, Swaim et al do disclose detecting reduced hydrogen sulfide.

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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